

IN THE CLAIMS:

1. (Currently Amended) A welding torch device of a welding robot, which is provided for electric arc welding or MIG or MAG welding, whereby the welding robot has a robot arm, on which is provided a connection device which can be rotated in relation to the robot arm, the device comprising:

5           a fixing device for attaching the welding torch device to the welding robot;

          a receiving device for holding a welding torch and for transferring driven rotatory motions to the welding torch;

          an electrical connection for a welding power cable, by means of which a robot side of the welding torch device can be electrically connected to a welding power source;

10          a current transfer device, via which the welding power cable can be electrically connected to a welding torch side of the welding torch device, wherein the current transfer device has a stator, which is provided for the rotationally fixed arrangement in relation to the robot arm, but can be rotated in relation to the connection device on the welding robot side;

          an essentially centric leadthrough of the stator, through which expendable supply  
15          material required for the welding process can be guided in the direction of the receiving device, wherein the receiving device and the fixing device are embodied as rotors, which, as a result, are rotatable in relation to the stator, and the receiving device and/or the fixing device are connected to the stator in an electrically conductive manner by means of an electric contact means, the fixing device of the rotor being designed for attaching to the connection device of  
20          the robot, the stator being an inner stator which is surrounded by the rotor as an outer rotor,

whereby, by means of the attaching to the connection device of the robot, a rotational axis of the outer rotor is at least essentially aligned with the rotational axis of the connection device of the robot and the outer rotor can be rotated about the rotational axis as well as about the inner stator.

2. (Previously Presented) A welding torch device in accordance with claim 1, wherein a longitudinal axis of the leadthrough is aligned with the rotational axis of the connection device.

3. (Previously Presented) A welding torch device in accordance with claim 1, wherein the stator has a rotationally fixed electric connection for the welding cable, through which the rotational axis of the connection device runs whereby the electrical connection is arranged within the stator.

4. (Previously Presented) A welding torch device in accordance with claim 1, further comprising: a lead through of the receiving device for welding wire for the welding torch, whereby the leadthrough of the stator and the leadthrough of the receiving device run at least essentially coaxially to one another.

5. (Previously Presented) A welding torch device in accordance with claim 1, wherein a longitudinal axis of a recess of the leadthrough of the stator runs at least essentially coaxially

to the rotational axis of the rotatory motion of the connection flange on the robot side.

6. (Currently Amended) A welding torch device in accordance with claim 1, wherein:

the electrical connection for the welding power is lead through the fixing device with which the welding torch device is attachable to the connection device of the robot, whereby the rotational axis with which the rotor is rotatable is at least essentially aligned to the rotational axis of the connection device; and

a common rotational axis of the fixing device and of the receiving device runs coaxially to a longitudinal axis of the leadthrough of the stator.

7. (Previously Presented) A welding torch device in accordance with claim 1, further comprising insulating medium, which electrically insulates the fixing device from the stator, whereby the stator and the receiving device are connected to one another in an electrically conductive manner by means of a stator to receiving device contact means.

8. (Previously Presented) A welding torch device in accordance with claim 7, wherein the stator to receiving device contact means has elements, which are rotated together with the rotor about an axis, whereby the rotational axis of these elements are aligned with the rotational axis of the connection device of the robot.

9. (Previously Presented) A welding torch device in accordance with claim 7, wherein

the contact means is embodied as a sliding contact means.

10. (Previously Presented) A welding torch device in accordance with claim 9, further comprising a force means, with which at least one said sliding contact element of the sliding contact means can be pressed against a contact partner.

11. (Currently Amended) A welding torch device in accordance with claim 10, wherein two force means are provided, with which the at least one sliding contact element can be pressed against contact partners in the axial and radial directions in relation to the axis of the rotatory motion.

12. (Previously Presented) A welding torch device in accordance with claim 11, wherein the force means are springy, and the at least one sliding contact element can be pressed against both a first contact partner radially surrounding the leadthrough and a second contact partner axially offset to the sliding contact element.

13. (Previously Presented) A welding torch device in accordance with claim 9, further comprising: a bell-shaped section of the stator, in which the sliding contact means is arranged.

14. (Previously Presented) A welding torch device in accordance with claim 1, further comprising: insulating medium, by means of which the fixing device can be electrically

insulated against the current transfer device.

15. (Previously Presented) A welding torch device in accordance with claim 1, wherein the leadthrough is provided with a recess, through which both welding wire and inert gas can be fed to the welding torch as the expendable supply material.

16. (Previously Presented) A welding torch device in accordance with claim 15, wherein the electric connection for the welding power cable is part of a wall defining the recess.

17. (Canceled)

18. (Currently Amended) A welding robot for welding workpieces, comprising:

a folding arm robot provided with a connection flange; and

a welding torch device connected to said flange, said welding device comprising a fixing device for attaching the welding torch device to the welding robot, a receiving device for holding a welding torch and for transferring driven rotatory motions to the welding torch, an electrical connection for a welding power cable, by means of which a robot side of the welding torch device can be electrically connected to a welding power source, a current transfer device, via which the welding power cable can be electrically connected to a welding torch side of the welding torch device, wherein the current transfer device has a stator, which is provided

10 for the rotationally fixed arrangement in relation to the robot arm, but can be rotated in relation to the connection flange on the welding robot side, an essentially centric leadthrough of the stator, through which expendable supply material required for the welding process can be guided in the direction of the receiving device, wherein the receiving device is embodied as a rotor and the fixing device ~~are~~ is embodied as a rotor[[s]], ~~which, as a result are, each rotor~~  
15 ~~being~~ rotatable in relation to the stator, and the receiving device and/or the fixing device can be connected to the stator in an electrically conductive manner by means of an electric contact means, the stator being an inner stator which is surrounded by the the fixing device rotor as an outer rotor, the fixing device ~~of the rotor, being designed for~~ attaching to the connection flange of the robot, whereby, by means of the attaching to the connection flange of the robot, a  
20 rotational axis of the outer rotor is at least essentially aligned with the rotational axis of the connection flange of the robot and the outer rotor is rotatable about the rotational axis as well as about the inner stator.

19. (Currently Amended) A welding torch device in accordance with claim 1, wherein;  
an introduction of supply material into the welding torch the leadthrough is coaxial arranged in the welding torch device and has a recess with a longitudinal axis which is in alignment with a rotational axis of the connection device; and

5 the inner stator is provided with the current transfer device having the electrical connection for the welding power cable, said connection current transfer device being lead through the fixing device to the connection device of the robot, whereby the rotational axis

with which the rotor is rotatable is at least essentially aligned to the rotational axis of the connection device.

20. (Currently Amended) A welding robot for welding workpieces, comprising:

a folding arm robot provided with a connection device; and

a welding torch device connected to said flange, said welding device comprising:

a rotor arrangement with a fixing device with a fixing device rotor for attaching the welding torch device to the welding robot and a receiving device for holding a welding torch and for transferring driven rotatory motions to the welding torch;

a stator arrangement with an electrical connection for a welding power cable, by means of which a robot side of the welding torch device can be electrically connected to a welding power source, a current transfer device, via which the welding power cable can be electrically connected to a welding torch side of the welding torch device, wherein the stator arrangement is rotationally fixed in relation to the robot arm, but can be rotated in relation to the connection device on the welding robot side, the stator arrangement including a stator defining an essentially centric leadthrough guiding expendable supply material required for the welding process in the direction of the receiving device, wherein the rotor assembly is rotatable in relation to the stator assembly and the fixing device rotor is an outer rotor and the stator is an inner stator surrounded by the outer rotor, and the receiving device and/or the fixing device is connected to the stator in an electrically conductive manner by means of an electric contact means, the fixing device of the rotor assembly for attaching to the connection device of the

robot whereby a rotational axis of the rotor assembly is at least essentially aligned with the  
20 rotational axis of the connection device of the robot and the rotor assembly is rotatable about  
the rotational axis as well as about the stator assembly.

21. (Previously Presented) A welding robot in accordance with claim 19, wherein  
a longitudinal axis of the leadthrough is aligned with the rotational axis of the  
connection device; and

the stator assembly has a rotationally fixed electric connection for the welding cable,  
5 through which the rotational axis of the connection device runs and further comprising: a lead  
through of the receiving device for welding wire for the welding torch, whereby the  
leadthrough of the stator assembly and the leadthrough of the receiving device run at least  
essentially coaxially to one another; and wherein a longitudinal axis of a recess of the  
leadthrough of the stator assembly runs at least essentially coaxially to the rotational axis of  
10 the rotatory motion of the connection device.